

Claims

1. A communication receiver comprising:

2 a receiver portion for down converting a received signal to base band
frequency; 3

4 a low pass filter for filtering said base band frequency signal to produce
on-channel received samples; and

6 a processor for processing said base band frequency to produce out-of-
channel received samples.

2. The receiver as recited in claim 1 further comprising:

2 a receiver back-end portion for processing said on-channel and out-of-
channel received samples essentially at the same time to decode said on-
4 channel received samples and to determine at least one of a link quality and
global positioning system originated information of said out-of-channel received
6 samples.

3. The receiver as recited in claim 1 wherein said receiver portion for down
2 converting includes an oscillator for producing a signal at essentially the same
frequency as an on-channel frequency, and a multiplier for down converting said
4 received signal to base band frequency by multiplying said received signal to
said local oscillator produced signal.

4. The receiver as recited in claim 1 wherein said receiver portion for down
2 converting including a low noise amplifier for amplifying said received signal for
processing in said receiver.

5. The receiver as recited in claim 2 wherein said receiver back-end portion
2 includes a number of fingers and a searcher for processing said on-channel and
out-of-channel received samples.

6. A method in a communication system comprising:
2 down converting a received signal to produce on-channel and out-of-
channel received samples;
4 processing said on-channel received samples to decode on-channel
information; and
6 processing said out-of-channel received samples to determine at least one
of a link quality and global positioning system originated information.

7. The method as recited in claim 6 wherein said processing of said on-
2 channel received samples and said processing of said out-of-channel received
samples are performed essentially at the same time by a receiver back-end.

8. The method as recited in claim 6 wherein said link quality is related to
2 determining a hard handoff candidate and said global positioning system

originated information is related to a position a receiver in said communication
4 system.

9. A method for determining a hard handoff candidate in a mobile station
2 comprising:

receiving a broad band signal including signals from an on-channel traffic
4 channel base station and from an out-of-channel pilot channel base station,
wherein frequency of signals of said on-channel traffic channel and said out-of-
6 channel pilot channel is different; and

down converting said received broad band signal to on-channel traffic
8 channel received samples and out-of-channel pilot channel received samples.

10. The method as recited in claim 9 further comprising:
2 processing said on-channel traffic channel received samples to decode
said traffic channel data; and

4 processing said out-of-channel pilot channel received samples to
determine quality of said pilot channel.

11. The method as recited in claim 10 wherein said processing said on-
2 channel traffic channel received samples and said processing said out-of-
channel pilot channel received samples are performed essentially at the same
4 time by a common receiver back-end.

12. The method as recited in claim 10 wherein said determined quality of said
2 pilot channel is used to determine whether a source of said pilot channel is a
hard handoff candidate.

13. A mobile station receiver comprising
2 a receiver portion for receiving a broad band signal including signals from
an on-channel traffic channel base station and from an out-of-channel pilot
4 channel base station, wherein frequency of signals of said on-channel traffic
channel and said out-of-channel pilot channel is different; and
6 a zero intermediate frequency portion for down converting said received
broad band signal to on-channel traffic channel received samples and out-of-
8 channel pilot channel received samples.

14. The mobile station as recited in claim 13 further comprising:
2 a back-end portion for processing said on-channel traffic channel received
samples to decode said traffic channel data and processing said out-of-channel
4 pilot channel received samples to determine quality of said pilot channel.

15. The mobile station as recited in claim 14 wherein said processing said on-
2 channel traffic channel received samples and said processing said out-of-
channel pilot channel received samples are performed essentially at the same
4 time by said back-end portion.

16. The mobile station as recited in claim 14 wherein said determined quality
2 of said pilot channel is used to determine whether a source of said pilot channel
is a hard handoff candidate.

17. A processor comprising:

2 an input portion for receiving down converted a received signal in a form
of on-channel and out-of-channel received samples; and

4 a processor portion for processing said on-channel received samples to
decode on-channel information and said out-of-channel received samples to
6 determine at least one of a link quality and global positioning system originated
information.

18. The processor as recited in claim 17 wherein said processor portion
2 includes a receiver back-end for processing of said on-channel received samples
and said processing of said out-of-channel received samples at essentially the
4 same time.

19. The processor as recited in claim 17 wherein said link quality is related to
2 determining a hard handoff candidate and said global positioning system
originated information is related to a position a receiver incorporating said
4 processor in said communication system.

20. A method for determining a hard handoff candidate in a mobile station
- 2 comprising:
- 4 receiving a broad band signal including signals from an on-channel traffic
- channel base station and from an out-of-channel pilot channel base station,
- wherein frequency of signals of said on-channel traffic channel and said out-of-
- 6 channel pilot channel is different;
- down converting said received broad band signal to on-channel traffic
- 8 channel received samples and out-of-channel pilot channel received samples.